

REMARKS/ARGUMENTS

Claims 1-33 were pending in the present application. By virtue of this response, claims 30-31 have been canceled, claims 1, 10 and 19 have been amended, and no new claims have been added. Accordingly, claims 1-29 and 32-33 are currently under consideration. Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter has been added.

Claim Objections

Claims 30 and 31 have been cancelled, rendering the objection to these claims moot.

Claim Rejections under 35 U.S.C. §112, ¶1 and ¶2

The Examiner rejects claims 1-29 under 35 U.S.C. §112, ¶1 and ¶2, based on the presence of the term “pre-cracking” in various ones of the claims. The term “pre-cracking” has been deleted from the claims. As a result, the 35 U.S.C. §112 rejections are moot, and Applicant respectfully requests that they be withdrawn.

Rejections under 35 U.S.C. §102(b)

The Office has rejected claims 1-5, 9-14, 18-23 and 29 as allegedly being anticipated by Major et al. (5,689,123). The independent claims (1, 10 and 19), as amended, recite that the source materials decompose on the surface of the substrate (claim 1); that the nitrogen source material interacts with aluminum at least on a crystal growth surface of the compound semiconductor (claim 10); and that the nitrogen source material decomposes on the surface of the substrate (claim 19). As discussed in detail below, it is respectfully submitted that, not only has the Examiner not alleged where Major et al. discloses such features but, in fact, Major et al. does not disclose such features.

We first discuss our contention the Examiner has not alleged where Major et al. discloses the features discussed in the paragraph above, found in claims 1, 10 and 19. We note that, while

these features are not identical to each other in scope, they are at least similar in scope. Furthermore, it is noted that claim 10 was amended merely to remove the phrase “without pre-cracking,” disapproved of by the Examiner with regard to 35 U.S.C. §112. Claim 10 (both before and after the present amendment) included a recitation of the nitrogen source material interacting with the aluminum at least on a crystal growth surface of the compound semiconductor layer.

The substance of the anticipation rejection is set forth on Page 4 of the Office Action, with a small portion at the top of Page 5 of the Office Action. There, the Examiner lists what are alleged to be various elements of the rejected claims (without explicitly specifying in which of the rejected claims each alleged element is recited) with a corresponding citation to the Major reference. Nowhere in the substance of the anticipation rejection though, does the Examiner list the feature of the nitrogen source material interacting with the aluminum as recited in claim 10 both before and after the present amendment.

In any event, it is respectfully submitted that Major does not, in fact, disclose this feature of claim 10 or the similar features recited in amended claims 1 and 19. To the contrary, Major discloses a method for producing III - V arsenide-nitride semiconductor crystals, wherein arsine (AsH_3) and phosphine (PH_3) are simultaneously supplied onto a substrate to form free N by means of catalyzing an NH_3 disassociation reaction in order to promote adsorption of N to the substrate. This is disclosed, for example, on col. 5, lines 4 to 6 and col. 12, lines 14-22 of the Major reference. The Major reference does not disclose or suggest, for example, non-decomposed NH_3 being supplied onto a substrate and a decomposition-reaction of NH_3 being caused on the substrate. Accordingly, the claims are allowable over the Major reference.

Rejections under 35 U.S.C. §103(a)

The Office has rejected claims 1, 6-8, 10, 15-17, 19 and 26-28 as allegedly being obvious over Sugiura et al. (6,204,084) in view of Major et al. (5,689,123). Applicant contends that, for reasons similar to those discussed above with respect to the anticipation rejection, the obviousness rejection is improper.

In particular, the substance of the obviousness rejection is set forth on pages 5 and 6 of the Office Action. As with the anticipation rejection discussed above, the Examiner has not cited where Sugiura is alleged to disclose the feature recited in claim 10 (both before and after the present amendment) of the nitrogen source material interacting with the aluminum at least on a crystal growth surface of the compound semiconductor layer. Nor does Sugiura disclose or suggest the similar features recited in claims 1 and 19. Furthermore, it is respectfully submitted that Sugiura does not, in fact, disclose or suggest this feature.

As a result, the obviousness rejection, too, is improper and should be withdrawn.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 299002052200. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: August 22, 2003

Respectfully submitted,



By _____

Alan S. Hodes

Registration No.: 38,185

MORRISON & FOERSTER LLP

755 Page Mill Road

Palo Alto, California 94304

(650) 813-5622